Air Quality Index: Ozone

Index Values	Levels of Health Concern	Cautionary Statements
0-50	Good	None
51-100*	Moderate	Unusually sensitive people should consider limiting prolonged outdoor exertion.
101-150	Unhealthy for sensitive groups	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
151-200	Unhealthy	Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
201-300	Very unhealthy	Active children and adults, and people with respiratory disease such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion.
301-500	Hazardous	Everyone should avoid all outdoor exertion.

* Generally, an AQI of 100 for ozone corresponds to an ozone level of 0.08 parts per million (averaged over 8 hours).

Ozone in Missouri

Naturally occurring **ozone** in the upper atmosphere protects the earth from the sun's harmful rays. Ground-level **ozone** is an irritant that damages lung tissue and aggravates respiratory disease. The pollutant is formed when heat and sunlight mix with volatile organic compounds (VOCs) and nitrogen oxide (NO_x) emissions in the lower atmosphere. **Ozone** can trigger a variety of health problems. Those most susceptible to **ozone** include children, the elderly and individuals with pre-existing respiratory problems. Even healthy young adults may experience respiratory problems at **ozone** levels as low as .08 parts-per-million (ppm) if they remain outdoors for extended periods. This could include individuals whose jobs require a great deal of time outdoors, such as road construction workers, or even individuals working in their lawns or gardens. The table at left describes the Air Quality Index (AQI), a system used to warn communities in St. Louis and Kansas City on days when their air may be dangerous to breathe. During the **ozone** season, between April 1 and Oct. 31, many radio and television stations in the St. Louis and Kansas City areas provide AQI information on a daily basis.

Number of Ozone Site Exceedances Reported

Approximately 4 million of Missouri's 5.4 million residents live in St. Louis and Kansas City where the likelihood of **ozone** formation is greatest. The **National Ambient Air Quality Standard** of .12 ppm is often exceeded on hot, sunny summer days. The number of days **ozone** levels exceed this standard in a given year generally reflects both weather conditions and the pollutants in the area's air.

In 2000, the St. Louis **ozone nonattainment** area reported only one **exceedance** of the one-hour **ozone** standard. Kansas City reported two **exceedances**. The chart below shows the number of days St. Louis and Kansas City exceeded the ground-level **ozone** standard in the last decade. The chart on the right shows the number of days the St. Louis area exceeded the ground-level **ozone** standard in comparison to the number of days weather conditions were favorable for exceeding this standard. This chart reflects the importance of individual actions in controlling **ozone**. In recent years weather conditions have been favorable to the formation of high levels of **ozone** in the St. Louis area on several days. However, through carpooling, postponing mowing, avoiding use of charcoal lighter fluid and many other voluntary efforts, St. Louis area residents were able to prevent high **ozone** levels on many of those days.